

DOCUMENT RESUME

ED 120 724

CS 202 488

AUTHOR Schubach, Deane Ford
 TITLE An Experimental Evaluation of a Program for the Improvement of Listening Comprehension of College Students.
 PUB DATE 75
 NOTE 39p.
 EDRS PRICE MF-\$0.83 HC-\$2.06 Plus Postage
 DESCRIPTORS College Students; Higher Education; *Instructional Programs; Listening; *Listening Comprehension; *Listening Skills; *Nonstandard Dialects; Standard Spoken Usage; *Student Improvement

ABSTRACT

The purposes of this study were to investigate whether a listening improvement program developed for business and industry would be successful in improving the listening skills of college students and whether a listening improvement program designed primarily for speakers of standard English would be successful with speakers of nonstandard English. Subjects were 144 students enrolled in the Effective Communication course at the College of the Virgin Islands in the fall of 1974. Data was collected from the Xerox Corporation's "Effective Listening Program" pretest and posttest. Variables related to listening were age, sex, and reading comprehension. Results indicated that there was a significant increase in listening comprehension, that the program was effective for students who were primarily speakers of nonstandard English, and that students from an American-based educational system did better than those from British-based educational system. (JH)

 * Documents acquired by ERIC include many informal unpublished *
 * materials not available from other sources. ERIC makes every effort *
 * to obtain the best copy available. Nevertheless, items of marginal *
 * reproducibility are often encountered and this affects the quality *
 * of the microfiche and hardcopy reproductions ERIC makes available *
 * via the ERIC Document Reproduction Service (EDRS). EDRS is not *
 * responsible for the quality of the original document. Reproductions *
 * supplied by EDRS are the best that can be made from the original. *

ED120724

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

An Experimental Evaluation of a Program for the
Improvement of Listening Comprehension of
College Students

Deane Ford Schubach
Assistant Professor of Speech
College of the Virgin Islands

CS 202 488

RESEARCH PROCEDURES

I. SUBJECTS OF INVESTIGATION

The subjects of this investigation consisted of 104 college students enrolled in the Effective Communications course at the College of the Virgin Islands, St. Thomas, Virgin Islands, for the Fall semester of 1974. There were six sections of the course, with each section limited to 23 students, but with some sections having as few as 12 students. One of the six sections was randomly selected to serve as a control group for the study. This group was given the pretest and posttest but were not exposed to the listening improvement treatment. The five sections of the course that served as the experimental group consisted of 86 students. The control group consisted of 18 students.

The age range of the students participating in the study was 15 to 63. The mean age of the total group was 21.19. The mean age of the experimental group was 20.88, and of the control group 22.66.

There were 28 males and 76 females in the total group, with a breakdown of 23 males in the experimental group and 63 females. The control group consisted of five males and 13 females. Thus, the groups were similar in relationship to the sex of the subjects with 73.07 percent of the total subject female and 26.93 percent male. In the experimental group, 73.25 percent were female and 26.75 percent male. The control group consisted of 72.22 percent female and

27.78 percent male.

In terms of educational background, there were 47 students in the total population who were from British-based educational systems and 56 students from American-based educational systems. One student in the experimental group was from a French educational system, and was therefore not included in the correlation study regarding educational background of the subjects.

As was pointed out in Chapter I, the students from Caribbean Islands that were former British colonies have been educated in systems modeled on the educational system of Great Britain and have taken qualifying examinations constructed and graded in London. The experimental group consisted of 36 students from a British-based educational system and 49 from an American system. The control group was comprised of 11 students from the British system and seven from the American.

The mean number of years of education for the total population was 12.33. For the experimental group, the mean number of years of education was 12.26 and for the control group, 12.44. The total population was made up of 80 freshmen, 15 sophomores, seven juniors, and two seniors.

In terms of reading skills, 38 out of 86 in the experimental group failed to pass the reading placement exams upon entering college. In the control group, seven out of 18 did not pass the reading placement exam. Since accurate reading comprehension scores were not available for all students in the study, the relationship was examined on a pass-fail basis.

The students participating in this study in either the experimental

or control groups constituted the entire population of students enrolled in the Effective Communications course at the College of the Virgin Islands for the Fall semester of 1974. A profile of the subjects is shown in Table V.

II. DESCRIPTION OF INSTRUMENTS

The testing and training instrument that was used in this research was the Xerox Corporation's Effective Listening program. This program was originally developed by Basic Systems, Inc., of New York, and is now marketed through Xerox Learning Systems of Stamford, Connecticut.

Two pretests were administered at the beginning of the program. Each test was a five-minute statement. After each statement, referred to as "Test A. Boss's Son and Gamesmanship," the subjects were asked to write a summary of the statement giving the speaker's main point and supporting points. The answers were recorded on a test sheet and scored by the instructor.

Four tests are provided with the listening program. Two were introduced as pretests and two as posttests. The data provided in the "Summary and Validation" report of the program indicate that the tests now in use are of equal difficulty for most populations, and may be administered in either order before and after Effective Listening training.¹ Each test contains two episodes as follows:

¹ "Effective Listening, A Training Program from Xerox Learning Systems, Summary and Validation, report on the validation of the Effective Listening program developed by Basic Systems, Inc. and marketed by Xerox Learning Systems."

TABLE I
PROFILE OF SUBJECTS

Group	Number	Male	Female	Mean Age	Mean Years Education	British	U.S.	Other	Pass Read*
Experimental	86	27%	73%	20.88	12.26	42%	57%	1	44%
Control	18	28%	72%	22.66	12.44	61%	39%	0	39%
Total	104	27%	73%	21.19	12.33	45%	54%	1	43%

*Number of students receiving a passing score on reading comprehension placement tests.

Test A. Gamesmanship, Boss's Son
 Test B. Conference TV, Wine Connoisseur²

In this research, Test A was used as the pretest and Test B as the posttest.

The Xerox Corporation has validated the pretest and posttest with a number of different populations. Figure 1 illustrates their results.

The data presented below was gathered for the tests by reversing the order of administration (i.e., A was given as a Pretest and B as a Posttest to another comparable group, within the same company). The graphs show Pretest scores on the left, Posttest scores on the right; the closer the two lines representing the two tests, the closer the "match."³

• Description of the Treatment

The Effective Listening program consists of a three-hour program tape "designed solely to increase listening ability."⁴ It was developed to teach techniques which are intended to replace poor listening.⁵ The program offers the trainee a chance to practice using these techniques by asking him to listen to a series of different speakers comment on a variety of different subjects which the trainee

²Ibid.

³Ibid.

⁴Ibid., p. 3.

⁵"A Report to Esso Standard Eastern, Inc. on the Results of Administering Effective Listening, a Basic Systems Program to Selected Employees from Southeast Asian and Other Far Eastern Countries. New York, New York: A Joint Study Conducted by Esso Standard Eastern, Inc., and Basic Systems Incorporated, 1966), p. 3. (Mimeographed.)

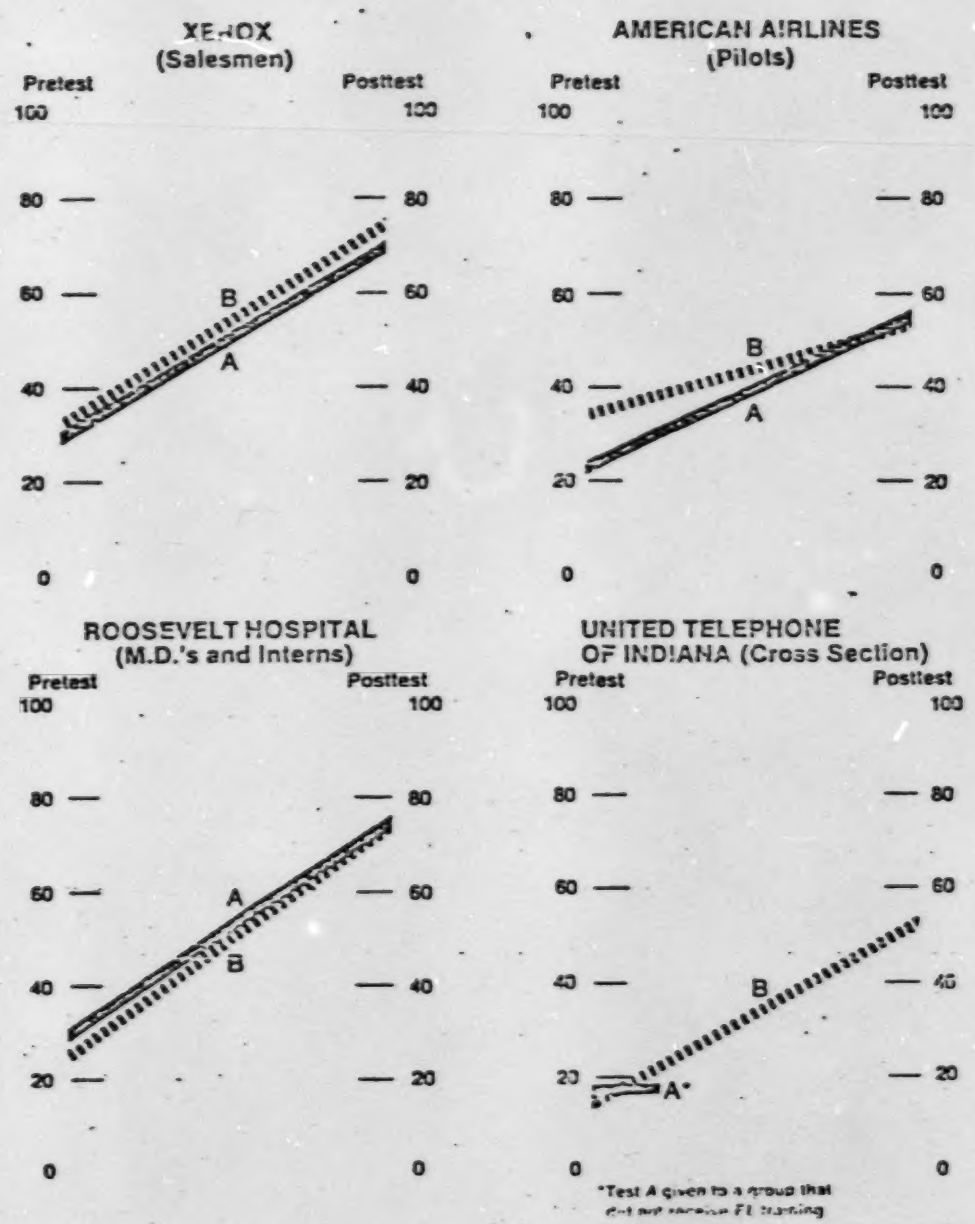


Figure 1. Pretest and Posttest Validation.

encounters daily in college, business, and personal life.

According to Xerox Corporation's report on the validation of the program, this tape-recorded method differs from conventional listening techniques in that it:

Simulates everyday listening situations.

Requires the individual to make a direct response to what he hears.

Provides each subject with the correct answer so he may gauge his own progress.⁶

The key techniques for improving listening skills that are presented in the program teach the subject to:

Capture and summarize critical information from what they hear, and constantly analyze what is being said.

Retain mental "key word" outlines of spoken information.

Sift main and supporting points from a speaker's words and screen out irrelevancies.

Organize lengthy instructions, conversational and lectures into major points.

Cut through distractions such as speaker bias, background noise, and emotional overtones.⁷

One key technique that was not mentioned in the literature but was considered an important feature by the researcher was the development of the ability to handle distractions caused by the speaker's accent or dialect. This was deemed to be a particularly important skill for the

⁶Effective Listening, op. cit., p. 3.

⁷Ibid.

population of this study as the great majority of the students in the College population from the Carribbean area and from islands whose population is multidialectal. Also their educational and business life bring them into contact with speakers from a wide variety of accent and dialect backgrounds.

The Effective Listening program can be taken by an individual or presented to a group. The tape consists of an introductory statement about the program, followed by the pretest and a series of 59 statements. It is concluded with the two-statement posttest described earlier.

The experimental and control groups both listened to the introductory statement explaining the listening improvement program. The introductory statement covers briefly the history of listening research and some of the findings of that research. The speaker raises the question of whether efficient listening is a problem. He gives statistics to indicate that research results show that the average person listens at about 25 percent efficiency. He then tells the listener that listening skills can be improved and suggests that the Effective Listening program which the subject is about to participate in will result in improved listening abilities for the participants.

The subjects were then asked to take a test to determine their current level of listening comprehension. The students listened to a five-minute statement by a woman speaker who discussed the qualities of her supervisor, who happens to be the boss's son. At the completion of the statement, the subjects were asked to write down, on a prepared test form, the speaker's main point and supporting points. After they had done this, they heard a second statement in which a male speaker

talks about a theory of winning games called "gamesmanship." Again, the subjects were asked to write the speaker's main point and supporting points.

After the test sheets were collected by the instructor, the control group continued with their regular course activities dealing with course content in communication theory and semantics.

The experimental group then began the program. For the remainder of the 50-minute class session they listened to statements and attempted to summarize the speaker's main points and supporting points at the end of each recorded statement. At the conclusion of each statement, the listener responded to questions or directions about the preceding statement. The answers were written down or given orally, depending on the instruction for each statement. Instant feedback was provided when the instructor or the narrator of the tape gave the answers and each subject had the opportunity to score his own responses, thus checking his progress with each statement. The statements varied in length but increased in complexity. The program began with statements that had one main point and a number of supporting points. The listener progressed to statements that had two and three main points, each with a number of supporting points.

As stated previously, the total program consisted of a three-hour tape. When administering the program within the confines of the college course schedule of three, 50-minute class sessions each week, the program took considerably longer. For this research study, the program was administered over five class sessions, which allowed the students about 12 practice statements each session, not including

the pretest and posttest statements.

As the program proceeded, the subjects were introduced to techniques to improve their listening comprehension. They then had a chance to practice these techniques on succeeding statements.

The first technique introduced involved training to develop the habit of beginning to listen immediately at the first sound of the speaker's voice. The subjects were then given practice in listening for "key words" and organizing the speaker's ideas as he proceeded. Several statements involved organizing the messages of very disorganized speakers. The subjects were introduced to the problems involved in messages with emotional overtones and given statements in which they were asked to practice weeding out the "emotional content" of a speaker's statement. The problem presented by speakers with unusual accents was considered and the subjects were asked to practice listening to the speaker's words and blocking out his accent. There were many statements in which the distractions caused by background noises were presented. The subjects had a chance to practice blocking out normal, everyday background noises when listening to messages.

Each statement presented offered an opportunity for the listener to practice one or more of the techniques being taught. At the same time, the statements progressed from simple messages having one main point and a number of supporting points to statements with two main points, each having several supporting points. By the end of the program the subjects had progressed to statements containing three main points, each having several supporting points.

After completing 60 practice statements, the experimental group

was given a posttest consisting of the statements referred to earlier as Test B. The first five-minute statement concerned a male speaker talking about the considerations involved in using a conference TV system for company meetings. After hearing that statement, the subjects were asked to record the speaker's main point and supporting points on a prepared test sheet which they had been given. They then listened to a second five-minute statement in which a male speaker discussed the qualities of a wine connoisseur. The subjects summarized the speaker's main point and supporting points on their test sheet. On the same day that the experimental group had their posttest, the control group was given the same test.

III. COLLECTION AND TREATMENT OF DATA

The pretest and posttest were both tape-recorded statements. The subjects wrote their summaries of the statements on prepared test sheets which provided spaces for main point statements and supporting point statements. The pretests were all given the same day to the 86 subjects in the experimental group and the 18 subjects in the control group, during their regular class sessions. The tests were scored by the researcher who was also the instructor for the experimental group. The scoring procedure used was that provided in the "Instructors Manual" that accompanied the listening program. The subjects were given 10 points for a correct statement of the speaker's main point, and 18 points for each of five supporting points. If the subject cited an example from the speaker's supporting point rather than the supporting point itself, he received five points credit for the example.

Each of the two statements in the pretest and posttest were scored separately with a potential score of 100 percent on each statement. The scores were then added together and divided by two. The average score for the two statements then became the subject's pretest or posttest score, representing the percentage of the message he is said to have comprehended, between zero and 100 percent.

After the pretest and posttest scores were recorded, a gain score was obtained for each participant. These were recorded along with other data to be examined for relationships. Other data collected included: speech intelligibility scores; years of education; age; sex; and type of educational background (U. S. versus British). A percentage gain score was also computed for each individual.

Treatment of Data

As stated in Chapter I, because all of the data represent scores, or in some cases, such as male and female, are dichotomous, interval ratio numbers were assigned. Therefore, the Pearson product-moment correlational analysis was appropriate in all cases. In addition, because of the use of the product-moment correlation coefficient, control for the effect of extraneous variables or the detection of spurious relationships was achieved by the use of partial correlation coefficients.

The product-moment correlational method was picked over other measures because it is powerful (detects small differences); sensitive (to changes in direction or degree); and robust (maintains its interpretation even when one or more assumptions such as normality have been

violated.⁸ Moreover, they are clearly interpretable and, when used to compute analysis of variance, are not sensitive to sample size like other tests of significance. They, therefore, can be compared one to another and give form (linear or curvilinear) direction (direct or inverse) and degree (magnitude) of relationship which less powerful measures do not.

Finally, to determine tests of statistical significance, both Blalock⁹ and McNemar¹⁰ have shown the direct relationship between analysis of variance and the square of the correlation coefficient as an independent estimate of between cells variance and that it is thus identical with an analysis of variance test of significance. Therefore, the data were tested according to the criteria for analysis of variance using this approach.

The usual descriptive statistics, such as the mean, are provided when appropriate, but since the researcher was basically interested in the relationship between variables, rather than simply description, the emphasis was on the statistical technique described above.

The Pearson product-moment correlational analysis was used to examine the relationship between a number of variables and listening test performance. The variables investigated were age, sex, years of education, speech intelligibility, U. S. versus British-based educational background and reading comprehension placement test performance. The

⁸Herbert L. Costner, "Criteria for Measures of Association," American Sociological Review, XXX (1965), 341-353.

⁹Hubert M. Blalock, Jr., "Further Observations on Asymmetric Causal Models," American Sociological Review, XXVII (1962), 542.

¹⁰Quinn McNemar, Psychological Statistics (3rd ed.; New York: John Wiley and Sons, Inc., 1962), p. 274.

latter was examined on a pass-fail basis as accurate scores were not available for all of the students in the study. In addition, the Pearson product-moment correlational analysis was used to determine whether the experimental and control groups were essentially matched. All statistical data were processed on an IBM Systems 3/Model 10 computer.

PRESENTATION AND ANALYSIS OF DATA

I. INTRODUCTION

This chapter presents the results of an experimental evaluation of a listening improvement program, the purpose of which was to measure the effects of this program for 104 college students, primarily from the West Indies, who were enrolled in a beginning communications course at the College of the Virgin Islands. The students participating in this study in either the experimental or control group constituted the entire population of students enrolled in the Effective Communications course at the college for the Fall semester of 1974. Eighty-six students were in the experimental group which received the listening improvement program and 18 students were in the control group which had the pretest and posttest but received no listening improvement instruction or practice. The listening improvement treatment that was used was the taped and programmed Effective Listening program originated by Basic Systems, Inc. and now marketed by Xerox Learning Systems. An important concern of the study was to test whether a listening improvement program designed for speakers of standard English would also be effective in improving the listening comprehension skills of college students who were primarily West Indian speakers of non-standard English.

The discussion will focus on the hypotheses similar to which they were presented in Chapter I. The Pearson product-moment.

correlational analysis was used in determining the acceptance or rejection of the hypotheses. Pretest and posttest listening comprehension scores were obtained for all students in the experimental and control groups. Speech intelligibility scores were obtained from a speech intelligibility test taken by each student at the beginning of the semester. This test attempts to measure how clearly students are understood by their peers when pronouncing words in sequence from a test list. Additional information was collected on the age, sex, years, and type of education for each student in the study. The type of education separates the students into two groups--those who were educated in American educational systems and those who were educated by the method used in British educational systems. The dichotomous variables of sex and American or British educational background were assigned values one and two. This is legitimate if there are only two nominal variables. It is then possible to run a point biserial correlation which is a true and rigorous product-moment correlation coefficient and interpretable as such.¹ For all other variables, correlations were also run. Correlation was picked over other measures because it is powerful (detects small differences), sensitive (to changes in direction or degree, and robust (maintains its interpretation even when one or more assumptions, such as normality, have been violated).² Correlation is

¹Quinn McNemar, *Psychological Statistics* (3rd ed.; New York: John Wiley and Sons, Inc., 1962), p. 274.

²Herbert L. Costner, "Criteria for Measure of Association," *American Sociological Review*, XXX (1965), 341-353.

clearly interpretable, can be used to compute analysis of variance, and is not sensitive to sample size like other measures of association. Moreover, it can be compared one to another and gives form (linear or curvilinear), direction (direct or inverse), and degree (magnitude) of relationship which less powerful measures do not.

Finally, to control for the effects of age, sex, years of education, and American versus British educational background, partial correlations were run to determine whether relationships between the dependent and independent variables were true, rather than spurious.

II. RESULTS

Table VI indicates the means for the experimental and control groups. To determine how strong these differences were and their level of significance, correlations were computed.

In determining tests of statistical significance, both Blalock³ and McNemar⁴ have shown the direct relationship between analysis of variance and the square of the correlation coefficient as an independent estimate of between cells variance and that it is thus identical with an analysis of variance test of significance. Therefore, the data were tested according to the criteria for analysis of variance using this approach. A significant relationship existed if, at the .05 level of significance, the correlation score was greater than .20.

³Hubert M. Blalock, Jr., Social Statistics (New York: McGraw-Hill, 1960), p. 304.

⁴McNemar, loc. cit.

TABLE VI
DATA FOR EXPERIMENTAL AND CONTROL GROUPS
ON LISTENING COMPREHENSION

Group	N	Pretest Mean	Posttest Mean	Mean Gain	Mean Percentage Gain
Experimental	86	41.97	76.05	34.08	169.01
Control	18	32.78	49.61	16.83	44.60
Total	104	40.38	71.47	31.10	149.97

A significant relationship existed if, at the .01 level, the correlation was greater than .27; and, at the .001 level, if the correlation was greater than .34.

Other studies, especially those using the Effective Listening program, have shown percentage gain as a measure of improvement in listening comprehension. Although these figures were presented in Table VI for purposes of comparison with the Xerox and other studies, this researcher did not consider percentage gain a valid measure since it is not independent of the initial starting position and is therefore a biased statistic. For example, a person going from a score of 1 to 2 had a 100 percent gain, whereas a person going from a score of 60 to 90 had only a 50 percent gain, yet the number of points gained for the latter person is 30 times greater.

The study basically dealt with three non-conditional hypotheses related to theory (one through three) and 12 conditional hypotheses related to methodology (four through 12).

Hypothesis Number One: There is no difference between the experimental and control groups on the pretest.

As shown in Table VII, the correlation obtained of .14 was not statistically significant and explains only two percent of the variation. Therefore, the hypothesis was not rejected and the conclusion may be drawn that there was no difference between the experimental and control groups at the beginning of the experiment.

Hypothesis Number Two: There is no difference between the experimental and control group on the posttest.

TABLE VII
CORRELATION OF EXPERIMENTAL AND CONTROL GROUPS
ON INDEPENDENT VARIABLES

	Age	Sex	Type of Education	Reading	Speech	Years of Education	Pretest
Correlation Coefficient	.12	.01	.12	-.04	-.03	.07	-.14

The correlation obtained, as shown in Table VIII, was .47 and was statistically significant at the .001 level of confidence. Therefore, the null hypothesis was rejected and it can be stated that there was a difference between the two groups due to the administration of the Effective Listening program. Partial correlations computed to control for external variables of age, sex, years of education, and type of education further supported the hypothesis that the experimental treatment would produce significant results. These will be dealt with in hypotheses four through 12.

Hypothesis Number Three: There is no difference between the experimental and control group on score gain.

The correlation obtained, as shown in Table VIII, was .29, which was statistically significant at the .01 level of confidence. Therefore, the null hypothesis was rejected and it can be stated that there was a difference between the experimental and control groups due to the administration of the Effective Listening program.

Hypotheses four through 12 were concerned with methodology. These hypotheses basically state that there is no difference between the experimental and control group on the pretest scores, on posttest scores and on gain due to the effect of age, sex, years of education, or type of education. In order to be sure that the experimental and control groups were matched and that the apparent lack of difference between groups was not due to confounding variables, partial correlations were run to control for the effects of age, sex, years, and type of educational background. Hypotheses four, five, six, and seven

TABLE VIII
CORRELATION OF EXPERIMENTAL AND CONTROL GROUPS
ON DEPENDENT VARIABLES

	Score Gain	Posttest
Correlation Coefficient	-.29*	-.47**

*Significant at the .01 level.

**Significant at the .001 level.

state that there is no difference between the experimental and control group on the pretest due to the effect of age (H_0 4); sex (H_0 5); years of education (H_0 6); or type of educational background (H_0 7). The correlation of $-.14$ that was obtained when comparing the experimental and control groups on pretest scores indicated that there was no significant difference between the two groups on pretest score performance. When partial correlations were run, controlling for the effects of age, sex, years of education, and type of education, a true independent relationship was indicated between the dependent and independent variables as shown in Table IX.

From the results indicated in Table VIII, hypotheses four, five, six, and seven can be accepted. There was no statistically significant difference between the experimental and control group on the pretest due to the effect of age, sex, years of education, or educational background.

Further, from the results indicated in Table IX, hypotheses eight, nine, ten and eleven can be accepted. There was no statistically significant difference between the experimental and control group on the posttest due to the effect of age (H_0 8), sex (H_0 9), years of education (H_0 10), or educational background (H_0 11).

The results indicated on Table IX made it possible to accept hypotheses 12, 13, 14, and 15. There was no statistically significant difference between the experimental and control group on score gain due to the effect of age (H_0 12), sex (H_0 13), years of education (H_0 14), or type of educational background (H_0 15). It was, therefore,

TABLE IX
PARTIAL CORRELATIONS ON TEST SCORES

Independent Variable	PRETEST		POSTTEST		GAIN	
	Zero Order	Partial Correlation	Zero Order	Partial Correlation	Zero Order	Partial Correlation
Age	-.14	-.15	-.47	-.48	-.29	-.27
Sex	-.14	-.14	-.47	-.46	-.29	-.29
Type of Education	-.14	-.14	-.47	-.47	-.29	-.30
Years of Education	-.14	-.14	-.47	-.46	-.29	-.29

Note: On dichotomous variables such as sex (male or female), type of education (American or British), and experimental or control group, a negative correlation indicates the group assigned the score of "one" did better. In this case, this was: female, American educational background, and subjects in the experimental group.

TABLE X
CORRELATION OF SELECTED VARIABLES WITH TEST SCORES

Variables	N	Pretest r	Posttest r	Gain r
Age	104	.05	-.15	-.20*
Sex	104	.11	.01	-.11
Type of Education	104	-.26*	-.22*	.09
Reading+	104	-.12	-.19	-.04
Speech Intelligibility	104	.03	.05	.01
Years of Education	104	.05	.07	.17

*Significant at the .05 level.

+Reading placement scores were unavailable and data were recorded on a pass-fail basis.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH

I. INTRODUCTION

The purpose of this research was an experimental evaluation of a listening improvement program, the purpose of which was to measure the effects of the Effective Listening program for the improvement of listening comprehension on 104 college students, primarily from the West Indies, who were enrolled in a beginning communications course at the College of the Virgin Islands for the Fall semester of 1974. An important concern of the study was to test whether a listening improvement program designed for speakers of standard English would also be effective in improving the listening comprehension skills of college students who were primarily West Indian speakers of non-standard English.

Five sections of the Effective Communications course, totaling 86 students, were used as the experimental group. A sixth section, chosen at random and containing 18 students, served as the control group for the study. All students were administered a pretest and posttest from the Effective Listening program. The experimental group received five 50-minute classroom sessions of the programmed and taped Effective Listening program. The control group dealt with regular coursework dealing mainly with semantic concepts and communication

Factors that were examined for relationship were age, sex, years of education, and type of educational background (American versus British). In addition, speech intelligibility scores and reading comprehension placement scores were collected for examination.

Since all of the data represented scores or, in some cases, such as male and female, were dichotomous, interval ratio numbers were assigned. Therefore, the Pearson product-moment correlational analysis was appropriate in all cases. In addition, because of the use of the product-moment correlation coefficient, control for the effect of extraneous variables or the detection of spurious relationships was achieved by the use of partial correlation coefficients. Correlations of .20 or above were significant at the .05 level; .27 or above were significant at the .01 level; and .34 and above were significant at the .001 level.

II. FINDINGS

Hypotheses one, two and three were non-conditional hypotheses that dealt with theory. These hypotheses stated that there was no difference between the experimental and control group on the pretest, posttest or on gain scores. The correlation obtained indicated that there was no difference between the experimental and control group on the pretest. In other words, the groups were at essentially the same level of listening comprehension ability at the beginning of the study. When the posttest scores were correlated for the two groups, a score of -.47 was obtained indicating that the experimental group did significantly better on the posttest. This figure was significant

at the .001 level. Therefore, it was concluded that the Effective Listening program resulted in a significant increase in listening comprehension for this group of college students and that the program was effective for students who were primarily speakers of non-standard English, as was the case in this study.

On dichotomous variables, if the correlation was negative it indicated that the group assigned a score of "1" did better. These were: females; American educated; those passing the reading comprehension placement test; and those in the experimental group. If the correlation was positive, the group assigned the score of "2" did better. These were: males; British educated; those failing the reading comprehension placement test; and those in the control group.

On listening comprehension gain scores, the correlation was $-.29$, significant at the .01 level. Therefore, it was concluded that the experimental group made significant gains in listening comprehension as a result of the Effective Listening program.

Hypotheses four through twelve dealt with methodology and stated that there was no difference between the experimental and control group on the pretest scores, on posttest scores, and on score gain due to the effect of age, sex, years of education, or type of education. In order to be sure that the experimental and control groups were matched and that the apparent lack of difference between the groups was not due to confounding variables, partial correlations were run to control for the effects of age, sex, years, and type of educational background.

The correlation of $-.14$ that was obtained when comparing the experi-

no significant difference between the two groups on pretest score performance. The partial correlations that were run, controlling for the effects of age, sex, years, and type of educational background indicated that true independent relationships existed between the dependent and independent variable.

When partial correlations were run on the posttest score of $-.47$ and the gain score of $-.29$, controlling for the effects of age, sex, and type of educational background, the results indicated that the relationship between the administration of the experimental program and the improvement in test scores was real and not spurious. It was concluded that the relationship between the control and experimental group was stable and unaffected by any of the variables tested.

A number of factors were examined in relationship to listening comprehension skill. The age range of the students was from 15 to 63--an unusually large range for a study involving college students. The results indicated that there was no significant relationship between age and pretest or posttest scores. However, a negative gain correlation score of $-.20$ significant at the $.05$ level indicated an inverse relationship between listening comprehension gain and age. In other words, the older participants achieved less comprehension score gain than the younger students. This supported previous research with the Effective Listening program which showed a steady decline in listening score gain with the increasing age of the participants.

No significant scores were obtained when investigating the relationship of sex and test scores. However, it should be noted that the male participants did slightly better on the pretest with $.11$,

dropping to .01 on the posttest. The female participants had a higher gain score correlation of -.11.

Americans did better on the pretest and posttest than did the students from British based educational systems. The pretest correlation score of -.26 and the posttest score of -.22 are both significant at the .05 level of confidence. While the British students did not do as well on the pretest nor the posttest as their American counterparts, they did, however, have a greater score gain than the students from an American educational background, though the difference in gain was not statistically significant.

Accurate reading comprehension scores were not available for all students participating in the study. Consequently, the researcher was able to separate them on a pass or fail basis only. The students who had passed a reading comprehension placement test upon entering the college were assigned a score of "1" and those failing were assigned a score of "2". The negative scores obtained indicated that those students passing the reading comprehension placement tests did better on the listening pretest with a correlation score of -.12, on the posttest -.19, and on gain -.04. None of these scores were significant and, therefore, no relationship was indicated between the reading and listening comprehension skills of the participants in this study. However, the pass-fail basis is admittedly not a specific enough measure from which to draw conclusions, and was used here only because of the unavailability of accurate scores.

As noted in Chapter II, no studies were found to have considered the relationship between the speech intelligibility of the

listener and his listening comprehension. This study examined the relationship between these two factors by correlating the participants' scores on a speech intelligibility test with their listening comprehension scores. No relationship was evident from the correlation scores obtained.

Unlike previous research with the Effective Listening program, this study showed no significant relationship between years of education and pretest, posttest, or gain scores. Chapter II presented three studies using the Effective Listening program that showed an increase in gain score with years of education. This study does not support those findings.

III. GENERAL OBSERVATIONS AND CONCLUSIONS

It is possible to conclude from this study that the Effective Listening program does produce significant improvement in listening comprehension skills and that it is effective for speakers of non-standard English. However, because the correlations were low, there is an indication that many variables present were not examined. There are obviously other factors affecting listening comprehension besides the ones investigated. The variables investigated only explained a small percentage of the variance. The most significant correlation of .47 explains only 22.09 percent of the variation. There must be additional variables which account for the remainder of the variation that were not studied. Future studies need to look at many other variables, which will be discussed later in this chapter.

32.87 for the control group) indicated that students were not receiving sufficient listening training in their pre-college education. The results of this study seem to further confirm the many studies cited in Chapter II that indicate the need for formal training in listening at the elementary and secondary level. It certainly seems unprofitable to delay formal training in listening until college.

IV. RECOMMENDATIONS FOR FURTHER RESEARCH

The following are suggestions for further research:

1. There is a need for research and investigation of the area of listening and regional dialects. The linguistic factors inherent in language transactions do not appear to have been studied in relation to listening skills.
2. This study has centered on the comprehension of standard English by speakers of non-standard English. Investigation needs to be done to determine the listening comprehension levels of dialect and non-standard English speakers when communicating with people with whom they share a common dialect or speech pattern.
3. Interest and attitude toward subject matter needs to be investigated. How much does the topic of a message affect the listener's comprehension, and what effect does the listener's attitude toward that topic have?
4. The personality adjustment dimension of listening needs to be investigated.
5. Growth patterns in listening comprehension need to be studied.

6. An investigation of the relationship of socio-economic status to listening comprehension would be a valuable addition to existing knowledge.

7. Listening comprehension in cross-cultural transactions has not been studied and would provide a new and important dimension in the area of cross-cultural communications as well as listening.

8. Only one study has examined listening vocabulary; this area is in need of further investigation.

9. No research seems to have been done in the area of listening comprehension and semantic considerations.

ABSTRACT

Listening is one of the most important ways of learning. Research has demonstrated repeatedly that a large portion of daily activity is devoted to listening. Most knowledge comes to people through their ears. While educators have been somewhat slow in recognizing their responsibility for providing training in listening to college students, they have not hesitated to use the lecture method as the most common form of information transmission. Research has determined that the average college student listens at about a 35 percent level of efficiency. A 1970 study reported that nearly 50 percent of the colleges, universities, and junior colleges in the United States offered a basic speech course. However, only 18 percent of the courses included development of listening ability as a course objective.

This study recognized that the need for training in listening had not been met in the pre-college education of the students entering the College of the Virgin Islands. The purpose of this study was to measure the effectiveness of a listening improvement program for college students, primarily from the West Indies, who were enrolled in a beginning communications course at the College of the Virgin Islands. The aim was twofold. First, it was to investigate the question of whether a listening improvement program developed for business and industry would be successful in improving the listening skills of the college students in the study. Second, it investigated whether a listening improvement program designed primarily for speakers of

v

standard English would be successful with speakers of non-standard English.

The population of the study consisted of 104 students enrolled in the Effective Communication course at the College of the Virgin Islands for the Fall semester of 1974. The instrument used to collect the data for this investigation was the Xerox Corporation's "Effective Listening Program" pretest and posttest. The tape-recorded "Effective Listening Program" was the listening skills improvement program being evaluated for this population. The variables related to listening that were investigated in this study were: age, sex, and reading comprehension. In addition to these variables, which have been examined in other research, this study examined the possibility of correlation between such factors as type of pre-college education (U. S. versus British), years of education, and speech intelligibility.

The results of this study indicated that the Xerox "Effective Listening Program" was successful in improving the listening comprehension ability of the college students in the study. It was concluded that the "Effective Listening Program" resulted in a significant increase in listening comprehension for this group of college students and that the program was effective for students who were primarily speakers of non-standard English, as was the case in this study.

The results indicated that there was no significant relationship between age and pretest or posttest scores. However, a negative gain correlation score of $-.20$, significant at the $.05$ level, indicated an inverse relationship between listening comprehension gain and age. No significant scores were obtained when investigating the relationship

of sex and test scores. However, it should be noted that the male participants did slightly better on the pretest and the female participants had a higher gain score.

Students from an American-based educational system did better on the pretest and posttest than did the students from British-based educational systems. The pretest and posttest correlation scores were both significant at the .05 level of confidence. While the British students did not do as well on the pretest nor the posttest as their American counterparts, they did, however, have a greater score gain than the students from an American educational background, though the difference in gain was not statistically significant.

The relationship between the speech intelligibility of the listener and his listening comprehension was investigated and no relationship was evident. Unlike previous research with the "Effective Listening Program," this study showed no significant relationship between years of education and pretest, posttest, or gain scores.

It is possible to conclude from this study that the "Effective Listening Program" does produce significant improvement in listening comprehension skills and that it is effective for speakers of non-standard English. However, because the correlations were low, there is an indication that many variables present were not examined. There are obviously other factors affecting listening comprehension besides the ones investigated. The variables investigated only explained a small percentage of the variance. The most significant correlation of .47 explains only 22.09 percent of the variation. There must be additional variables which account for the remainder of the variation

which were not studied. Future studies need to look at many other variables.

The low pretest mean of 40.38 indicated that students were not receiving sufficient listening training in their pre-college education. The results of this study seem to further confirm the many earlier studies that indicate the need for formal training in listening at the elementary and secondary levels. It certainly seems unprofitable to delay formal training in listening until college.